PRICES AND BANKING POLICY—DISCUSSION

James B. Forgan.—The most urgent practical question raised by Professor Moulton is whether the Federal Reserve system is going to prove the unfailing tower of strength we have accustomed ourselves to consider it and whether, as has been generally proclaimed, it will forever prevent the recurrence of the periodical financial panics which prior to its organization were so frequent in this country.

Professor Moulton says that it has recently been computed "that the Federal Reserve banks as a whole could still expand the total volume of credit by over a billion dollars before the reserves of the system as a whole would be down to the limits prescribed by law." This may be so, provided they can continue to get an ever expanding outlet for their circulation, which now stands at over $2,800,000,000, and if they can maintain or continue to increase their reserve deposits, now standing at over $1,800,000,000. These two amounts combined—$4,600,000,000—form the credit extended to the Federal Reserve banks by their member banks and the public, against which they are required to keep a minimum gold reserve of 40 per cent on the former (their circulation) and of 35 per cent on the latter (their reserve deposits). On the basis of the credits thus extended to them and of their gold reserve they have loaned to member banks over $2,100,000,000, about 73 per cent of which is against government securities, besides which they carry government obligations amounting to $300,000,000 and bankers' acceptances amounting to $585,000,000.

Although composed of twelve individual entities, the Federal Reserve system must be regarded as one individual whole. The financial pressure is not felt with equal force all over the country at the same time, but varies with the seasonal requirements of different sections. The strength of the system lies very largely in coöperative action by the twelve banks, which finds its most vital expression in the maintenance of the Gold Settlement Fund in Washington. The policy of the Federal Reserve Board is to treat the twelve banks as integral parts of one system. This is necessarily so. Under this policy it is interesting to note that some of the largest Federal Reserve Banks have recently required assistance in order to keep their reserves up to the minimum legal requirements, while some of the smaller banks, which a few months ago had to be similarly assisted, now stand well to the top of the list in their percentage of reserves to deposits.

The ratio of total reserves to net deposits and Federal Reserve notes of the system is at present 45 per cent—the lowest point yet reached. A year ago it was 50 per cent, two years ago 62 per cent, three years ago 77 per cent, and four years ago 87 per cent. These figures clearly indicate that there are limits to the Federal Reserve system, as there are to all institutions of human origin, and warrant the words of caution used by Professor Moulton: "If we allow the situation to go forward until the reserves of the Federal Reserve system have been re-

duced to the legal minima we shall be in precisely the same situation that we have always been in, in time of crisis, namely, with a fundamental need for a temporary expansion of loans with which to tide the business world over a threatening financial abyss, but with utter inability to make any such expansion." Of course, the Federal Reserve Board has authority in an emergency to reduce the legal reserve requirements of the Federal Reserve banks or to suspend them for a stated period, but panic of considerable magnitude would doubtless prevail before such action would be taken, or it might follow should such action be taken. It certainly behooves us to call a halt now and to give due heed as to whither we are drifting. I therefore again agree with Professor Moulton that in the light of the present situation the reserves of the Federal Reserve system should be conserved and that the only effective measure available to the Federal Reserve banks should be applied, namely, to raise the discount rates on all lines of paper discounted by them. This policy has recently been adopted so far as removing the preferential rates on loans secured by government obligations is concerned and has already had the effect of reducing somewhat the volume of such loans, which is good as far as it goes, but this has been practically offset by an increase in commercial paper rediscounted and bankers' acceptances purchased, showing the correctness of Professor Moulton's statement: "If member banks are compelled to reduce their borrowings from the Federal Reserve banks on 'war paper,' the result will merely be, so long as a demand for their funds continues, to shift the borrowing process to commercial paper. There would then be no change in the total amount of credit extension by the Reserve banks." He then draws attention to the fact that "Funds may be drawn from Federal Reserve banks by an indirect process," referring to their purchases of acceptances in the open market. This is exactly what has taken place since the rates on "war paper" loans were raised. He then reaches the inevitable conclusion that "If the total volume of bank loans is to be reduced it will therefore be necessary for discount rates to be raised on all classes of paper and for the Federal Reserve banks to refuse to expand their own market purchases."

In explanation of the policy of the Federal Reserve banks in regard to discount rates as heretofore approved by the Federal Reserve Board with advice of the Federal Advisory Council, I would say that conditions confronting them have prevented the application of recognized economic principles. The controlling factor has been the necessity of the government for credit to enable it to prosecute and win the war. Not only had the Federal Reserve banks to make such rates as would enable the government to float its low rate securities in the shape of bonds and certificates of indebtedness, but they had to take charge of these issues and do everything they could to induce their member banks, at their own expense, to help distribute them, and to extend to their customers who bought them such credit as was necessary at correspondingly preferential rates. It was patriotism that for the time being

displaced or disregarded economic laws and principles. The hope for the future is in the claim of the Treasury Department that after its financing, necessary to provide for its certificates maturing within the next sixty days has been accomplished, its urgent necessities will be out of the way and its requirements will thereafter be met by floating short term certificates, issued in anticipation of the quarterly collection of federal taxes. Such certificates have only a short time to run and the certainty of their payment at maturity will afford them a ready market with the large taxpayers as well as with the banks. It will be no longer necessary to arbitrarily distribute them among the banks by allotment in proportion to their resources. The desire to have the government successfully achieve its last refunding operations in connection with its $2,300,000,000 of certificates maturing between December 15 and February 28 was the principal reason why the discount rates at the Federal Reserve banks were not raised on all lines of paper at the time the preferential rates on paper secured by government bonds were withdrawn. When this government financing is out of the way, as it is expected to be very shortly, there is little doubt in my opinion that the Federal Reserve banks under the advice of the Federal Reserve Board will raise their rates for the purpose of checking undue expansion of credit whenever such action seems necessary. Thus they will secure some control of the discount market which abnormal conditions have so far prevented.

There is just a possibility that after we get through with this government financing and with the usual first-of-the-year operations the borrowing demands of the member banks on the Reserve banks may perceptibly fall off and a shrinkage in the volume of Federal Reserve notes may take place. This would occur in the natural course of events. If, however, in the interest of our foreign trade, and for humanitarian and ethical reasons, we are going to extend to European countries the credits they require to enable them to obtain from us the foodstuffs and raw materials they so urgently need, as I firmly believe we should, there is small prospect of the demand for bank credit weakening during the year 1920. If the government should assist in this necessary European financing, as I also think it should, it may have to be still further financed and again theories may have to be suspended in view of the conditions we shall have to face. The necessities of the railroads for large amounts of credit after they are returned to their owners is another important factor which will operate in maintaining a strong demand for bank credit for some time to come.

Under the abnormal conditions now prevailing and with such uncertainty as to future developments, there can be no doubt that the resources of the Federal Reserve banks should be conserved as much as possible, and that the policy of the member banks should be to discriminate against all loans for speculative purposes and to make careful investigation as to the use to be made of all monies borrowed from them by their customers. I am not without hope that if such policies are pursued, financial panics may be avoided and that, notwithstand-

ing the strain, which seems inevitable, the Federal Reserve system will prove equal to it. But we must be on our guard; we must look ahead and not strain the elasticity of the system to the breaking point. If its reserves continue to shrink, the brakes must be applied by materially raising the discount rates.

George W. Dowrie.—On the whole, I find myself quite in accord with the view that we shall not witness a substantial reduction in the price level until we have passed through a period of forced liquidation and the ensuing depression. Both the consumptive and productive processes must be rid of certain elements which make for the continuation of the present situation. The remedy is painful, but it is not reasonable to expect that our present exceedingly strained position can be effectively relieved by any mild palliatives.

The protection of our whole credit structure has been placed in the hands of the Federal Reserve Board and in my judgment we are reaching the place where they will have to apply the brakes rather vigorously even though it is evident that such action will result in unpleasant consequences. Much more desirable results can be accomplished by a definite policy of contraction without a radical increase in discount rates than by forcing liquidation by the increase of rates to a prohibitive figure. The latter policy would increase the cost of doing business to an intolerable point and thus work against the very object for which it was instituted. One cannot, except in the cases where certain institutions were caught "on the ragged edge," attribute the recent sweeping change in the stock exchange situation to the mere mathematical difference of one half of 1 per cent between the old and new rediscount rates, especially when the bank securing the accommodation could lend at from 10 to 30 per cent, approximately seven dollars worth of deposit currency for every dollar's reserve it was building up by rediscounting at 4.75 per cent. It was the pressure exerted by the Federal Reserve Board that really accomplished the desired result. A study of the discount rates of the great central banks of Europe with their remarkably small range of variation indicates that their influence over the money market at critical times has not been wielded through resort to prohibitive discount rates.

Furthermore, no one line of economic activity should be singled out as the victim of the deflation process. As Professor Moulton points out, the reserves accumulated from contraction at one point would only be available for greater expansion at another, with the result that no relief from a high price level would actually be had.

The present situation differs from the normal period of inflation in that it is characterized by an acute scarcity of goods, whereas such periods are usually characterized by a large volume of production. This leads one to venture the prediction that after the economic system has been purged of extravagance and inefficiency, including certain phases of the prevailing labor psychology to which reference has been made, the revival will be more rapid than is normally the case.

Certain incidental conclusions which Professor Moulton has reached seem to need some modification because they are based upon an overwrought distinction between money used in production and money used in exchange. If I interpret him correctly, he takes the so-called classical writers on money to task for failing to observe that one of the uses of money, beside being exchangeable for goods, is to aid in the production of goods. Just how money functions differently in the productive process from the way it serves the consumptive process I am unable to comprehend. Producers obtain money or deposit currency merely in order to have something to exchange for the goods and services needed for carrying on the particular step in the productive process in which they happen to be engaged. Consumers, in like manner, obtain money or deposit currency in order to have something to exchange for goods and services, many of which are identical with the things for which producers are offering money in exchange.

While I am far from being a spokesman for the quantity theorists, I am sure that Professor Fisher, for instance, would not accept the statement that the quantity theory always runs in terms of goods already produced as excluding producers' goods. He undoubtedly would be quite willing to revise his picture of the commodity scale pan so as to include wheat as well as bread, and shoe machinery as well as shoes. While it is true that our mechanism for manufacturing media of exchange is much more concerned with the provision of funds for the productive process than for consumptive uses, the resulting money and deposit currency function in exactly the same way, in that they make the demand of the purchaser of goods and services an *effective* demand.

Professor Moulton is quite right when he says that the immediate effect of the curtailment in the volume of bank currency will be to send prices of finished goods in the opposite direction, but at the same time a chain of influences will have been started which will tend to bring about a subsequent lowering of prices of individual commodities and services, and hence a lower level of prices. Without taking in detail his various groups of borrowers, for the principle involved is the same throughout, let me point out wherein his somewhat overwrought notion of the peculiar use of money in production leads him afield. Now a reduction in accommodations by the banks would result in the curtailment of effective demand for existing producers' goods and services, for no matter how early a stage in the productive process his efforts represent, the producer like the consumer is a buyer of existing goods and services. In a competitive market the supply of producers' goods would have to be sacrificed in view of the curtailed demand for them.

Because of their ability to obtain the constituent goods and services at a lower cost, granting free competition, after the temporary increase in prices has passed, purchasers of their output should be able to obtain it at a lower figure. The limitation in the amount of available purchasing power would force some firms into liquidation and there would therefore be a curtailment of subsequent supplies which would tend to offset the influence of the curtailed demand, but it has invariably been

the case that the psychological effect of a decreasing demand plus the actual shrinkage has outweighed the counter effect of the accompanying decreasing supply. As for the point that fixed charges would have to be distributed over a smaller number of units of product, and that therefore the price of goods would go up instead of down, this might be the case in a few industries where fixed charges were so important an element in cost as to more than offset the factors I have mentioned, but even here in a time of threatened depression the payment of many of the so-called fixed charges would be subjected to postponement.

In like manner the contention that the curtailment of building operations through the contraction of loans would tend to create scarcity values for the product of existing plants refers only to a temporary phenomenon. The producers who are extending an old plant or starting a new one depend upon a supply of loanable funds in order to make effective their demand for labor, cement, steel, glass, etc. If their supply of funds suffers diminution, the prices of such commodities and services will tend to fall with diminished demand. This influence will spread like the waves propelled by the force applied by the traditional pebble thrown into the pond. Furthermore, in due time, the existing plants, for the reasons stated before, will because of lowered costs turn out the curtailed supply at a lower price.

Professor Moulton, in his discussion of the effect of loans for consumptive purposes, indicates very clearly my position with regard to loans for productive purposes as well. "It may well be that the force of original demand thus augmented by borrowed funds has served to raise the price of consumers' goods." "Producers'" could just as well be substituted for "consumers'" goods in the quotation. Moreover, is not the converse proposition true? May not a reduction in loans not only to consumers but to producers as well reasonably be expected to lower prices? And does not this mean in the case of the latter the ultimate lower production costs which Professor Moulton insists are the *sine qua non* of a reduced cost of living?

Finally, there is the problem of ridding the commercial banking structure of two billions of government securities which ought to be in the strong boxes of individuals and savings institutions. I agree that it would be highly undesirable and in fact quite disastrous to our economic system if, in addition to the curtailment of their other credit demands, producers had to have the market for their securities badly depressed, if not thrown into a chaotic condition, by the appearance of a competitor of such magnitude.

Nothwithstanding the delicacy of the task, a definite policy looking toward the absorption of these government obligations should be adopted and followed out as rapidly as a proper regard for the stability of the credit structure will permit. Our experience with the sale of Liberty Bonds and thrift stamps has shown that, after all, a considerable volume of government securities will be absorbed without injury to other classes of investment or curtailment of savings accounts. Since this class of purchasers buy bonds at the expense of consumption,

a skillful selling campaign would work a two-fold benefit to the price situation.

GEORGE E. PUTNAM.—One's method of approach to the question of prices, reconstruction, and banking policy is so intimately dependent upon one's conception of the forces that operate to determine the value of money, that I shall state briefly, at the outset, my conception of those forces. Using Professor Fisher's familiar terms, my conception of the equation of exchange would read, $MV=PT$. In this case, however, M represents standard money only, and V its velocity of circulation. That is to say, the gold lying in the United States Treasury as a reserve against United States notes, together with the gold in bank reserves, is not really idle. It is constantly at work, supporting in varying degrees of activity the numerous forms of government and bank currency. When business men are confident of the future, they borrow and extend their operations. Bank currency (hence the velocity of the circulation of gold) increases in volume. The first effect of confidence, if it becomes general, is a rise in prices; the ultimate effect, an increase in the volume of products. I make no attempt to analyze the psychological factor which governs V, namely, confidence. I only know that it may be precipitated by good crop prospects, a turn in the political situation, etc.; and it may be reënforced by a rise in the price level itself. (This is only another way of saying that bank currency may be an immediate cause or an ultimate effect of rising prices. Note the somewhat similar relation between the price of labor and the price of commodities.) But once men's confidence is thoroughly aroused it is likely to run riot. It easily becomes infectious. A few successful ventures blind men to the necessity of caution. Sooner or later the expansion in the volume of trade under rising prices, and the investment of capital in producers' goods, is rudely checked by rising wages and interest rates. Weaker firms fail, blind confidence is shaken, even low-cost firms have difficulty in maintaining their credit standing, and prices fall. The conclusion is that, without any change in the quantity of standard money, prices may rise or fall according to the state of business confidence.

The term "business confidence" is used here in its broadest sense. If a government issues bonds which are used as security for bank loans, there has been an increase in confidence; or if a government issues inconvertible paper money, it is compelling its citizens to rely upon instruments based entirely upon confidence. This latter point is important, for the reason that many writers have insisted that the greenbacks were the actual standard of value during the Civil War. In reply to this contention, I would merely ask the question, What would have happened to greenback prices after 1864 if in that year Congress had raised the weight of the gold dollar to forty grains?

With regard to the other side of the equation of exchange, I believe that the volume of trade is equally important in explaining price changes. During the period from 1873 to 1896, for instance, there

was a general increase in the productivity of labor and capital, and a general decline in prices. In agriculture, increased productivity was the result of the application of new and extensive methods of cultivation to free and fertile land. In industry, there were introduced not only labor-saving devices but also the economies of the corporate form of business organization. Here were changes in the volume of trade which did not result from price changes. On the contrary, they contributed to changes in the price level.

If it is true that increasing productivity may reduce prices by enlarging the volume of trade, is not also the converse true, namely, that diminishing productivity may help to raise prices by reducing the volume of trade? For the time being the war has clearly diminished the world's productivity. The efforts of many nations have been expended in the production of relatively unproductive goods with the result that there is now a serious shortage of consumers' goods. The cause of present prices, therefore, cannot be attributed solely to the increase in the quantity of gold and confidence. Some account must be taken of diminished productivity for which the price level has not been responsible.

I am not attempting, in this brief analysis, to discount the importance of the quantity of "money" as a factor in explaining price levels. I am merely insisting that equations of exchange prove nothing, that gold money has utility for purposes other than money, that other things do not remain equal, that every period is one of transition, and that in seeking for the causes of price changes we must look primarily to the forces that determine the volume and serviceability of standard money, the state of business confidence, and the volume of trade. These factors, together with the price level itself, are like Professor Marshall's illustration of the balls lying in a bowl—they mutually govern one another's position.

I agree with Professor Moulton that it is high time to increase materially rediscount rates. Such action would tend to check the speculative spirit which has been partly responsible for the upward trend of prices. While I accept the doctrine that over short periods of time speculation tends to stabilize prices, I fail to see that the same holds true over long periods. In the psychology of human nature the pendulum of confidence—or lack of confidence—always swings too far, producing in the end a violent reaction. The sooner overconfidence is checked the better.

I am not fearful that the increase in discount rates will raise prices by raising costs. Here again we must take into consideration the fact that there is an interval of time between changes in cost and changes in price. It should be noted also that in certain lines of industry our own volume of producers' goods has been vastly increased during the period of the war; and, in view of the necessity of meeting fixed charges on invested capital, higher interest rates on new loans need not immediately result in higher prices for the products of low cost firms. The essential point is that higher discount rates might help to

check the spirit of overconfidence and thereby keep prices from mounting higher. In any case it would better prepare us for the outward movement of gold which is bound to come.

So far as industrial depression is concerned, I think we can all safely agree that it will come "sooner or later." According to all the familiar signs we are already approaching the top of a business cycle. But there are extenuating factors in the situation, factors which have not been present in former cycles. Frankly, I think a good deal will depend upon our credit (confidence) relations with Europe as to how soon the period of reaction will set in. If we lavishly extend credit to European countries, we shall unleash the forces that make for higher prices. If we refuse that credit, we shall have more of our own products in our own markets at lower prices. I think we can be certain on only one thing, namely, the sooner the reaction comes the shorter will be its duration.

H. G. MOULTON.—Owing no doubt to faulty exposition in the original draft of my paper, Mr. Dowrie has completely misinterpreted my position on the major issue. I was not, in fact, making any distinction between capital and consumptive goods; my distinction is between the use of money as a medium for exchanging goods that have already been produced (whether consumptive or capital goods) and the use of money in financing the production of the goods themselves. It was doubtless my comment upon the quotation from the *Federal Reserve Bulletin,* which appeared to assume that an increased production of capital goods would not require the use of funds, that threw Mr. Dowrie off the track. It is true that most of the writings on money as a medium of exchange run in terms of the exchange of consumers' goods only; but adding capital goods to the trade side of the equation does not in any sense touch my criticism.

The point is that a producer of raw materials, for example, borrows funds and sets labor and capital to work in digging raw materials out of the earth. These borrowed funds (credit currency, if you please) are not used in this case for exchanging goods that are already in the market awaiting sale; they are used to produce the goods. Similarly, when a manufacturer borrows funds and employs industrial energy in manufacturing raw materials into finished products, he is not merely exchanging goods; he, also, is producing them.[1] Likewise the middlemen who borrow funds with which to finance their operations are not merely exchanging goods; by the use of the funds required in financing their operations they give place and possession utility to these goods. And as everyone realizes—upon reflection—the productive process would be halted to the approximate degree that these funds were not obtainable. Money is of course serving as a medium of exchange, but it is also being used in financing the production of goods; and unless

[1] Because of the emphasis upon the exchange function of money most of our banking literature assumes that bank currency functions only in connection with the marketing of goods, after they have left the hands of the manufacturer.

one keeps this fact constantly in mind he will fail to appreciate the economic effects of a policy of loan contraction,—or for that matter of a policy of loan expansion.

Professor Fisher has made a significant admission in this connection, in stating that an expansion of bank loans and an increase in the quantity of credit may be attended by an increase in the quantity of goods. He adds, however, that when once these goods that have been produced by the use of the borrowed funds have passed out of the market the expanded credits remain and thus subsequently raise the level of prices. In this assumption that credit, once utilized, necessarily remains an active price-determining factor, we find the crux of the whole question. If the assumption is true, very nearly the entire case for the quantity theory, as Professor Fisher expounds it, must be granted. If it is untrue, however, virtually the entire analysis falls to the ground.

In support of the statement that this credit remains in the channels of circulation as an offer against goods after the goods originally produced with these borrowed funds have passed out of the market, I have never yet seen any attempted proof. The writers who make this statement have never followed through with the analysis. The complete cycle is as follows: The original loan is made to Mr. Jones. Mr. Jones produces goods with the borrowed funds. The goods are sold and eventually pass out of the market. But the outstanding credit does not remain outstanding, because Mr. Jones pays off his loan at the bank and thereby reduces the amount of outstanding credit. Indeed, he usually pays it by drawing a check in favor of the bank against a deposit account.

Whether a *new* loan will immediately be sought and granted will depend upon the conditions obtaining at the time the loan is paid. And if a new loan is made, Mr. Jones will again use the borrowed funds in the productive process and thus again offset the new credit by new goods.

The daily and weekly variations in the volume of loans and deposits; the seasonal fluctuations; and the alternate expansion and contraction in the different periods of the business cycle—all offer conclusive evidence against the validity of the assumption in question. The mechanical conception of a total quantity of monetary counters and a total quantity of (produced) goods serves merely to obscure the realities of the price-making process.